

## **Bottcher, Helen**

---

**From:** Bottcher, Helen  
**Sent:** Friday, June 03, 2016 10:46 AM  
**To:** wyckoffcomments  
**Subject:** FW: cost table for Wyckoff alternatives

These comments came directly to my personal mail box. I am forwarding them to ensure they are included with the other comments received in the "official" wyckoffcomments mail box.

Helen Bottcher, RPM

-----Original Message-----

From: Eric Moe [mailto:[emoe@umci.com](mailto:emoe@umci.com)]  
Sent: Thursday, June 02, 2016 6:02 PM  
To: Bottcher, Helen <[Bottcher.Helen@epa.gov](mailto:Bottcher.Helen@epa.gov)>  
Cc: [dschulze@bainbridgewa.gov](mailto:dschulze@bainbridgewa.gov); Val Tollefson <[vtollefson@bainbridgewa.gov](mailto:vtollefson@bainbridgewa.gov)>  
Subject: Re: cost table for Wyckoff alternatives

Hi Helen,

There are some items that jump out to me and generate questions.

1). I see about 60,000 tons of Portland cement in alt 4 and 30,000 in alt 7. With 40 ton trucks this equates to 1500 and 750 truck trips respectively. I also see O&M costs associated with the road at the site, perhaps a function of heavy truck traffic. To me this is a no-brainer for a barge delivery of materials. Especially with Ash Grove Cement located on the Duwamish for easy access. May be more cost effective too.

2). Why is the well and building decommissioned in alt 7 but not 4?

3) With all the heavy traffic including materials, people, contractors, etc there should be funds allocated to the City to improve the whole road along Eagle Harbor drive to mitigate the impact. Wide shoulder, bike lanes, visibility. Plus O&M funds.

4). Present value of cash flows are higher for Alt 7 than 4 at both 1.9 and 7% cost of capital. If we applied probability of 50% to needing phase 2 of alt 7 then it is a wash. Given this Alt 4 seems like a way better alternative with a cleaner site, less risk the project will carry on way into the future, and no wall that will fail again in the future at cost to the city on the waterline.

I believe I'm convinced now that the capital and operating costs associated with the thermal alternatives 5 and 6 drive us to 4 and 7.

My conversations in the community and others on the advisory group including Charles, Barb, Frank, and Janet plus additional analysis leads me to prefer alternative 4.

Please let me know if this is official input or if I need to send to another email as well.

Best regards,

Eric Moe, MSE MBA

Senior Developer - District Energy, Waste Heat Recovery, Cogeneration UMC Energy & Environment

Email: [emoe@umci.com](mailto:emoe@umci.com)

Cell: 206-890-3266

[www.umci.com](http://www.umci.com)

On Apr 14, 2016, at 2:55 PM, Bottcher, Helen <[Bottcher.Helen@epa.gov](mailto:Bottcher.Helen@epa.gov)> wrote:

Hi, Eric. Here is the cost table. It links to databases at CH2M HILL, which you obviously don't have (nor do I). But it still runs OK if you just click "no" when it asks if you want to allow links.

Please don't distribute this. There will be a PDF version in the FFS, but we don't typically distribute the "live" version of our cost tables.

I'll be interested to hear if you find any potential areas for energy and/or cost savings!

Regards,

Helen

<[Wyckoff Site FS FINAL 7% v10.xlsx](#)>